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ABSTRACT OF THE DISCLOSURE

Various embodiments of systems and methods for performing accumulation operations on block operands are disclosed. In one embodiment, an apparatus may include a memory, a functional unit that performs an operation on block operands, and a cache accumulator. The cache accumulator is configured to provide a block operand to the functional unit and to store the block result generated by the functional unit. The cache accumulator is configured to provide the block operand to the functional unit in response to an instruction that uses an address in the memory to identify the block operand. Thus, the cache accumulator behaves as both a cache and an accumulator.